Governor's Water Augmentation, Innovation, and Conservation Council Meeting

July 15, 2021

Agenda

I. Welcome and Introductions
II. Presentation on Drought Mitigation Revolving Fund – *Speaker of the House, Rep. Rusty Bowers*
III. Committee Updates
    a. Non-AMA Groundwater Committee
    b. Long-Term Water Augmentation Committee
    c. Desalination Committee
    d. Post-2025 AMAs Committee
IV. Discussion of Establishment of Additional Management Periods
    a. Previously Introduced Legislation (SB1512) – *Rep. Gail Griffin*
    b. ADWR Proposal – *Council Chair, Director Tom Buschatzke*
V. Council Annual Report
VI. Closing Remarks
VII. Next Meeting

September 16, 2021, 10:00 a.m. - 12:00 p.m.

VIII. Adjournment

Webinar Logistics

- **Please state your name when speaking.**
- **Mute yourself when not speaking.**
- **Indicate you wish to speak by typing your name in the chat box, and you will be invited to unmute and speak.**
- **Please message "Everyone" in the chat.**
- **The meeting and chat will be recorded.**

*Technical issues? Send a **direct message to ADWR-Host** in the chat, call the ADWR Help Desk at **602-771-8444** or email **tickets@azwater.gov**.*

I. Welcome and Introductions

II. Drought Mitigation Revolving Fund

Speaker of the House, Rep. Rusty Bowers

III. Committee Updates

a. Non-AMA Groundwater Committee
b. Long-Term Water Augmentation Committee
c. Desalination Committee
d. Post-2025 AMAs Committee

Non-AMA Groundwater Committee

Co-Chairs Rep. Gail Griffin and Jamie Kelley

Next meeting: TBD

Long-Term Water Augmentation Committee

Chairman Wade Noble

Next meeting: **August 3, 2021, 10:00am – 12:00pm**

Finance Subcommittee Report

* Overview of Subcommittee
* Draft Report
  * Previous Arizona efforts
  * Mechanisms implemented by other SW states and other countries
  * Federal funding
* Drought Mitigation Revolving Fund

Finance Subcommittee Recommendation

The subcommittee recommended supporting and continuing to build on the current $200 million dollars by providing a consistent and dedicated funding source annually in subsequent state budgets to ensure Arizona can meet its water needs into the future.

Water Infrastructure Finance Authority

* Water Infrastructure Finance Authority (WIFA)
* State Revolving Funds
* Water Supply Development Fund

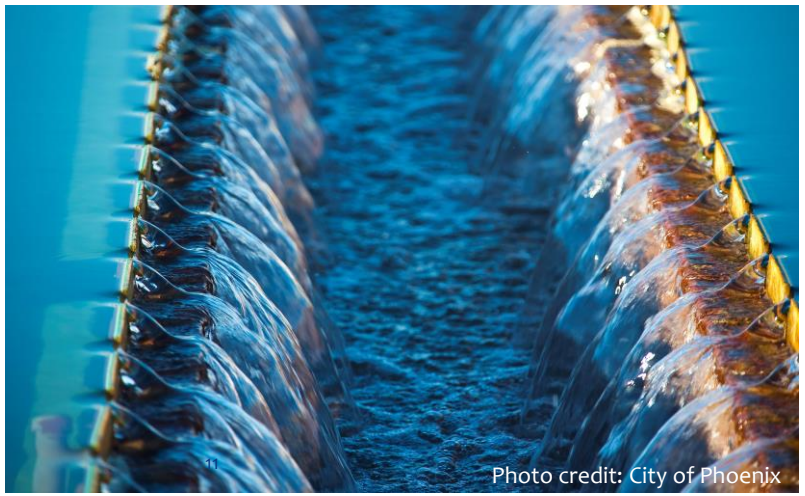


Photo credit: City of Phoenix

Storage Sites Subcommittee Outcomes

* 2021 Potential Water Storage Sites on ASLD Trust Land Report
* Guide to Underground Water Storage Site Selection

Questions for the LTWA Committee?

Chair: Wade Noble

Governor's Water Augmentation, Innovation & Conservation Council

July 15, 2021

Desalination Committee

Chairman Henry Day

Next meeting: TBD

Legal/Regulatory Subcommittee Summary

Background

- The Legal and Regulatory Subcommittee of the Governor's Water Augmentation, Innovation, and Conservation Council's Desalination Committee, chaired by Scott Miller, was tasked to identify legal and regulatory barriers to the increased use of brackish, or poor quality, groundwater supplies in Arizona. The initial subcommittee meeting was held on October 18, 2019.

- Following this meeting, a Summary Paper was drafted and sent to Subcommittee members for comment

- Comments were received and discussed at a subsequent meeting of the Desalination Committee on March 25, 2021

- Following are discussion points, including consensus and differing opinions

16

Legal/Regulatory Discussion

- There are no legal or regulatory constraints specific to the use of brackish or poor-quality groundwater (PQGW) in Arizona law. Brackish or poor-quality groundwater is not specifically defined in Arizona statute.
  - Some committee members felt a legal definition of PQGW could encourage beneficial use of a currently underutilized water source
  - Others saw no need to define PQGW, preferring the 'one water' approach
  - There was little agreement concerning what currently constitutes beneficial use of PQGW

- Most of the legal and regulatory barriers to the increased use of brackish groundwater that were identified by the subcommittee are limitations to the use and transportation of groundwater.
  - The Arizona Groundwater Transportation Act of 1991, with certain amendments prohibits the transportation of groundwater to another basin or sub-basin, or from an area outside an AMA to an AMA, unless specifically authorized.
    - Exceptions: McMullen Valley, Butler Valley, Harquahala INA, Big Chino Sub-Basin
  - Arizona law classifies all aquifers in the state as drinking water aquifers and prohibits the degradation of the water quality of those aquifers. This effectively prohibits the use of deep well injection for the disposal of waste streams from desalination of poor-quality groundwater supplies. Deep well injection currently requires both an Underground Injection Control (UIC) permit from the U.S. Environmental Protection Agency (EPA) and an APP from ADEQ.

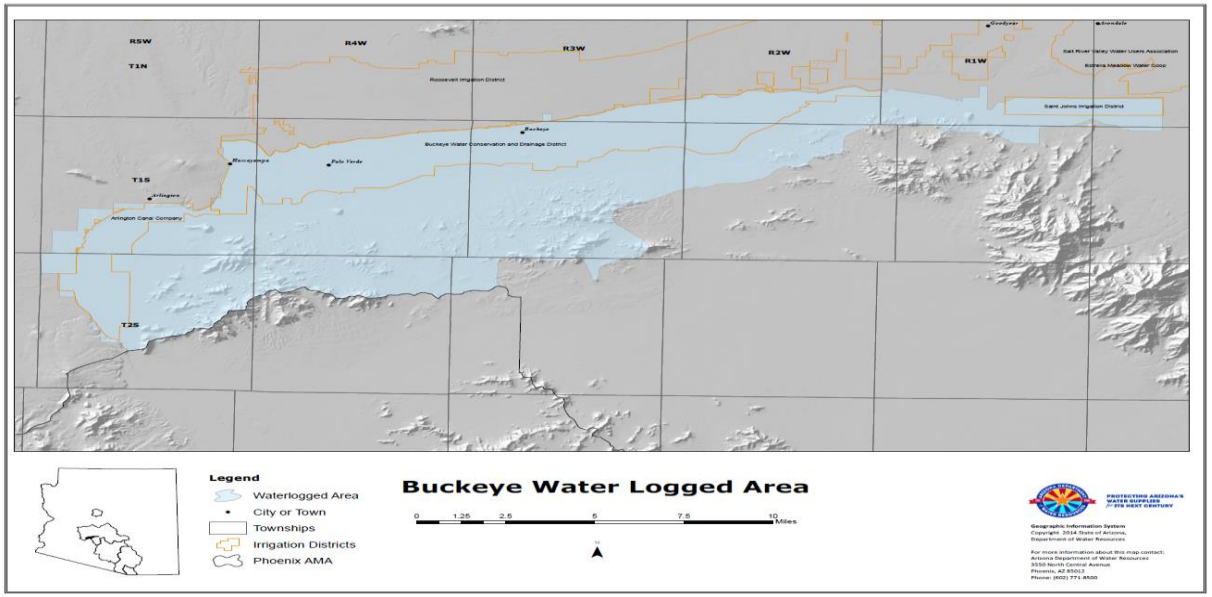
17

Exceptions for the Use of Poor-Quality Groundwater

- There are two sections within the Code that reference the use of "poor quality" groundwater, enabling the use of groundwater beyond what would otherwise be allowable within the AMAs, with significant limitations.
  - A.R.S. § 45-132 prohibits filling or re-filling bodies of water for landscape, scenic or recreational purposes; however, a person can apply to the Director for a permit to use poor quality groundwater for that purpose
  - A.R.S. § 45-516 also allows for the issuance of poor-quality groundwater withdrawal permits

Buckeye Waterlogged Area

The subcommittee focused considerable discussion on an area in the Phoenix AMA commonly known as the Buckeye Waterlogged Area (BWLA). Within this area, because of the shallow depth to water, irrigators have historically dewatered in order to sustain agricultural activities.



19

Discussion Points of the Subcommittee

The subcommittee discussed both the means and desirability of enabling additional groundwater use by leveraging exemptions for poor-quality groundwater permits and removing limitations imposed by the Groundwater Code or transport statutes.

- Expanding exemptions for groundwater use or incentivizing use of groundwater supplies conflicts with the purpose of the Groundwater Management Act.
- Poor quality water is no less valuable than potable water. Targeting this water as less valuable, or as if it is not available to someone else, is not a good path forward.
- If PQGW is withdrawn in any large quantity, in excess of what is already used, it may affect another user's physical availability. Brackish groundwater is still groundwater, and it is already relied upon.
- Additional PQGW pumping could lower water levels, forcing the current users to deepen their wells, creating economic hardship.

20

Questions

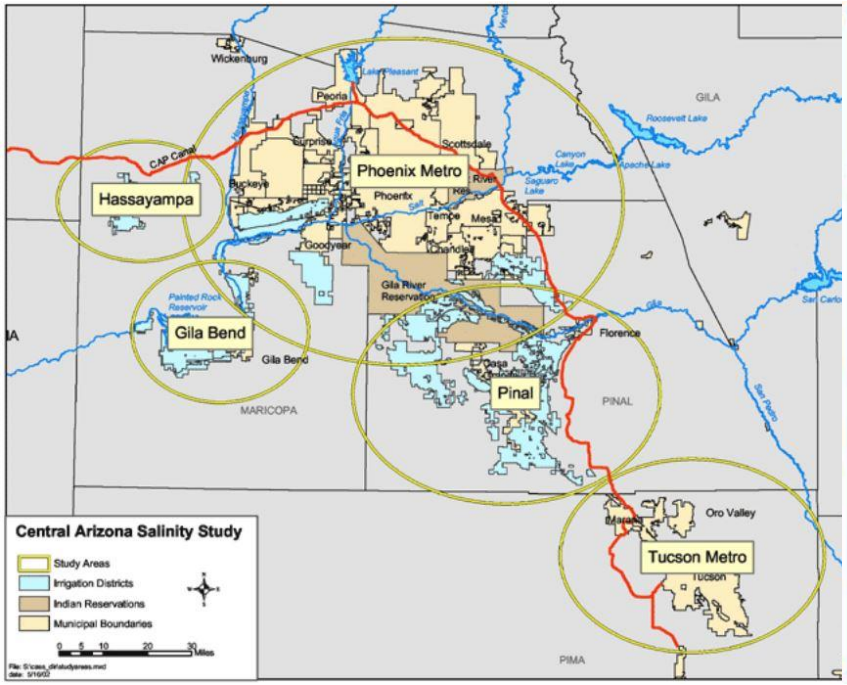
Desalination Committee Next Steps

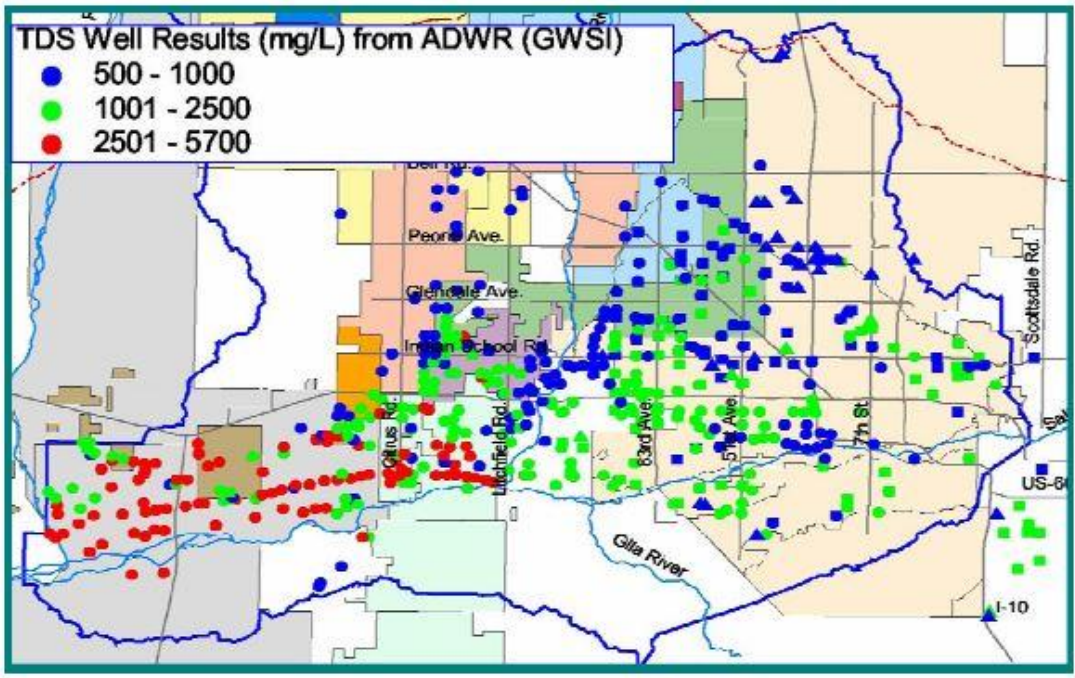
Next Steps For Desalination Committee

- The committee was tasked to evaluate the feasibility of developing additional desalination projects to augment water supplies in Arizona
- Numerous possibilities were evaluated, however, were found to be impractical at this time due to technological, legal, or cost constraints
- Future potential activities:
  - Evaluate technological improvements that will enable cost-effective recovery and beneficial use
  - Evaluate possible loss of current supplies due to degradation
    - It is equally important to conserve and protect existing supplies as it is to find new supplies of water
    - The Central Arizona Salinity Study (CASS), from 2002-2006, identified a build-up of salts in soils and groundwater

23

CASS Study Area and ADWR Wells TDS





CASS Study Predictions

- CASS was a four-year $2 million study led by the USBR and supported by many Central Arizona cities, water providers, consultants, NGOs
  - CASS Study Conclusions:
    - 1.1 million tons/year of salts are building up in the Phoenix Metro Area, 40% in groundwater; 100,000 tons/year in Tucson Metro Area
    - By 2040, the Phoenix Metro Area will increase to 1.85 million tons/year, degrading groundwater
    - Drought conditions will increase salt concentrations in surface water supplies (Colorado River, Salt, Verde, and Gila Rivers)
    - Each 100 mg/l increase in surface water cost Phoenix $30 million/year and Maricopa County $94 million/year
    - Contributors of TDS to wastewater collection systems (municipal, industrial, commercial) are not constrained by pretreatment local limits or disposal fees
    - Water softener usage will increase from current levels, contributing to increased TDS in WWTP effluent
      - (In 2004, 26% of homes in Phoenix Metro used water softeners, 51% of new homes)
    - Municipal WWTPs could develop chronic or acute biomonitoring issues
      - Evidence of such toxicity was demonstrated in Cave Creek Salinity Study

CASS Trends

- 20 years later – were any of the CASS predictions accurate?
- Is source water TDS increasing due to drought?
- Has treated effluent quality degraded?
- Is groundwater quality degrading?

- Proposal
  - Desalination Committee will assemble a team of interested parties to reconsider the high-level conclusions of the CASS Studies
  - If appropriate following review of existing data, consider further investigation
  - Continue to evaluate technological advancements that may enable cost-effective beneficial use of saline or brackish groundwater in Arizona

- **Discussion**

Questions for the Desal Committee?

Chair: Henry Day

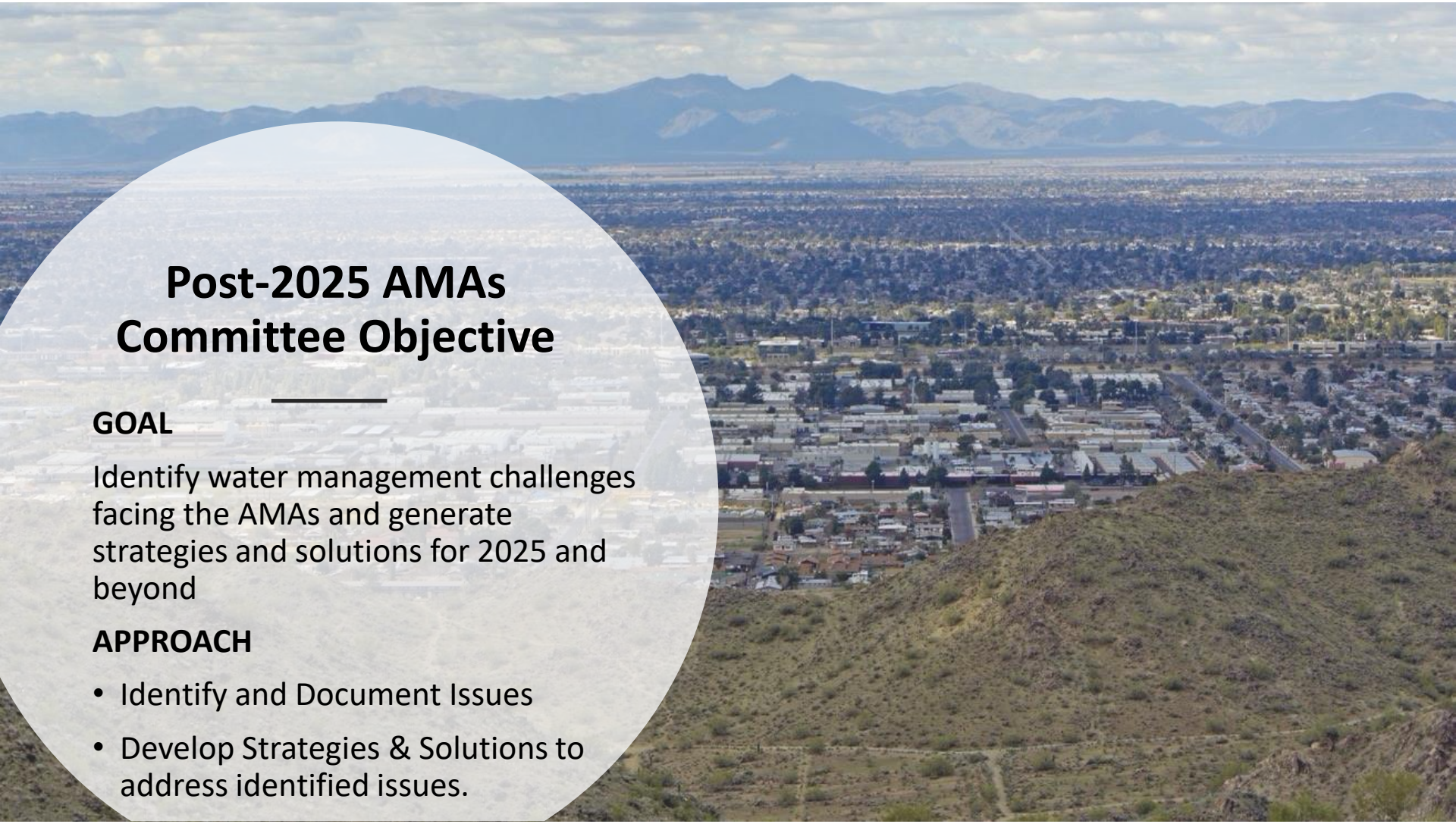
Governor's Water Augmentation, Innovation & Conservation Council

July 15, 2021

Post-2025 AMAs Committee

Co-Chairs Warren Tenney and Cheryl Lombard

Next meeting: August 10, 2021, 1:00pm – 3:00pm



Post-2025 AMAs Committee Objective

GOAL

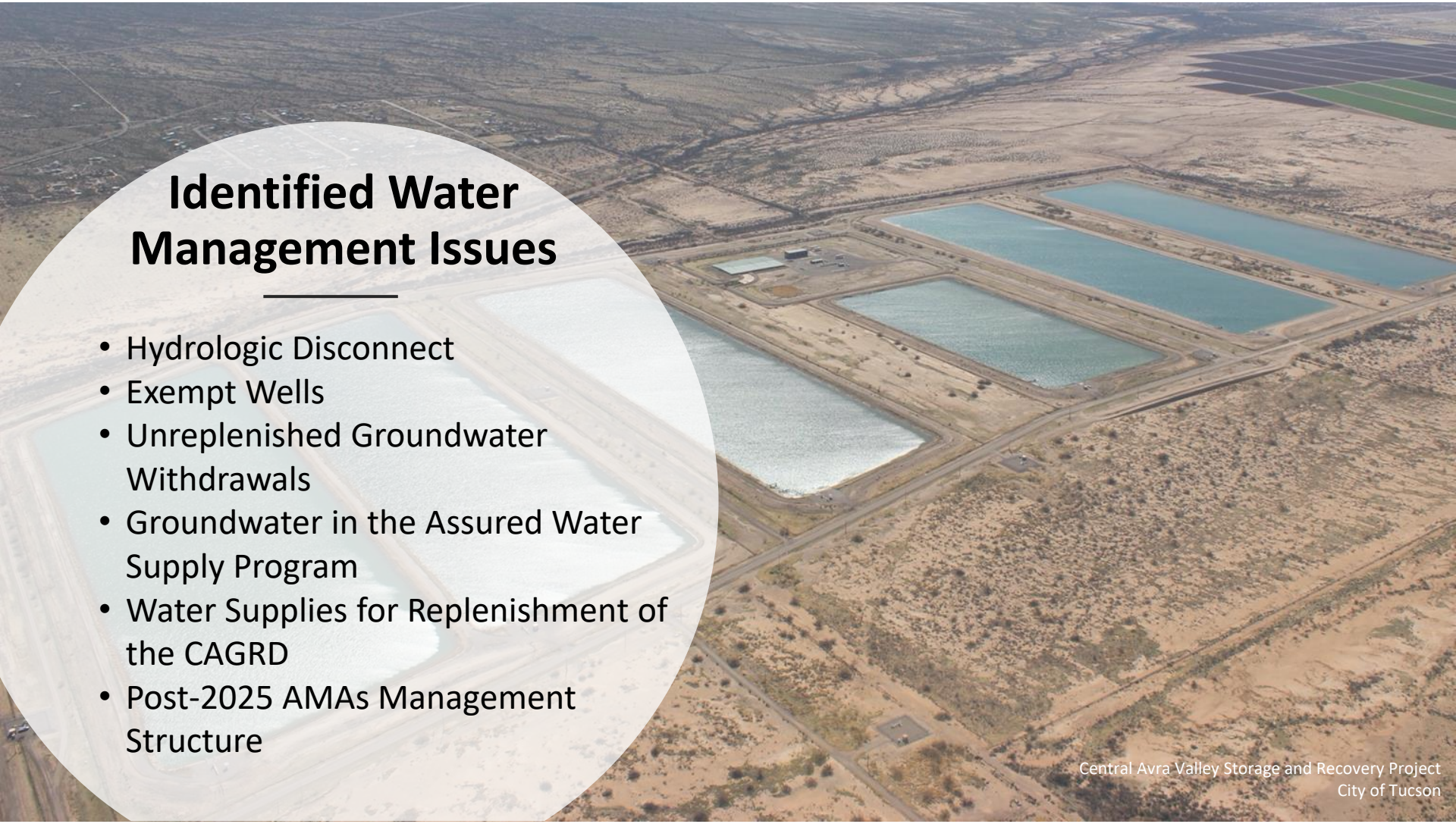
Identify water management challenges facing the AMAs and generate strategies and solutions for 2025 and beyond

APPROACH

- Identify and Document Issues
- Develop Strategies & Solutions to address identified issues.

Identified Water Management Issues

- Hydrologic Disconnect
- Exempt Wells
- Unreplenished Groundwater Withdrawals
- Groundwater in the Assured Water Supply Program
- Water Supplies for Replenishment of the CAGRD
- Post-2025 AMAs Management Structure

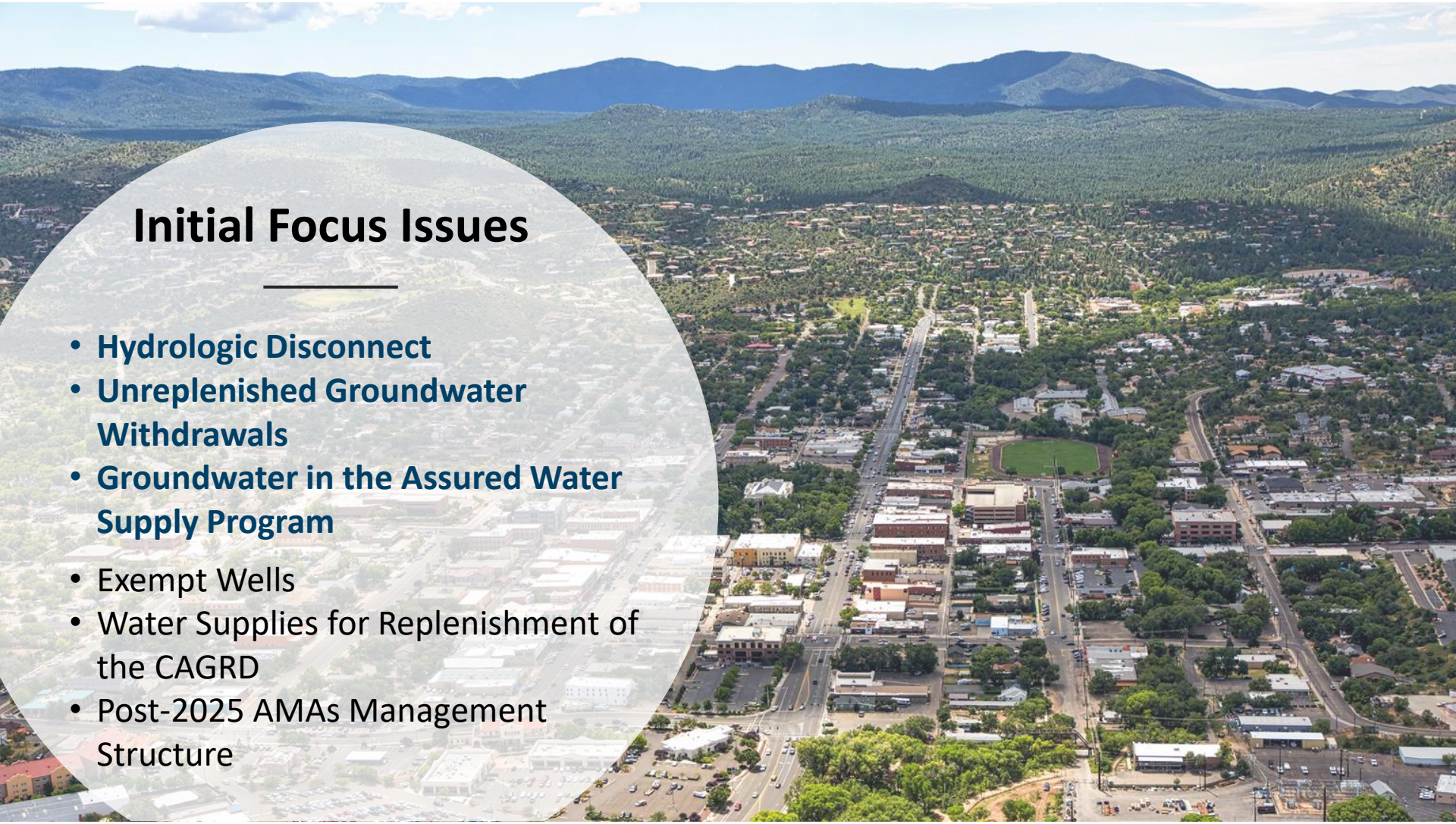


Central Avra Valley Storage and Recovery Project
City of Tucson

Phase Two: Develop Strategies & Solutions

OBJECTIVES

- Identify solutions that can be implemented within the next year and a half
- Identify broader strategies to create momentum to pursue with subsequent administration



Initial Focus Issues

- **Hydrologic Disconnect**
- **Unreplenished Groundwater Withdrawals**
- **Groundwater in the Assured Water Supply Program**
- Exempt Wells
- Water Supplies for Replenishment of the CAGRD
- Post-2025 AMAs Management Structure

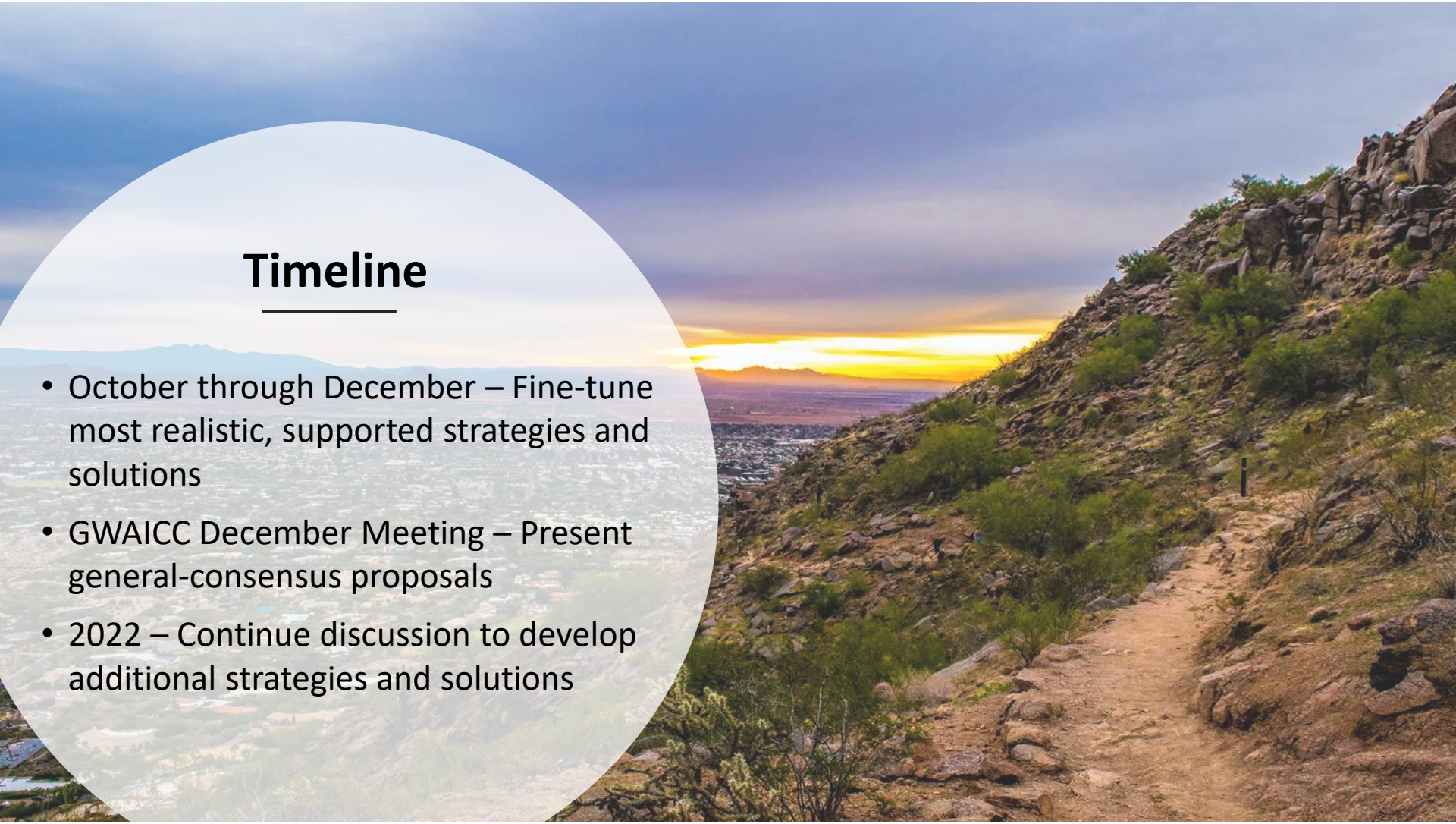
Remaining Issues

- **Exempt Wells** – Prescott AMA stakeholder group to discuss and report ideas to the Committee
- **CAGRD Replenishment Supplies** – Captured in first three issues plus part of collective approach to water supplies (LTWA Committee, etc.)
- **AMA Management Structure** – Address after looking at first three issues

Upcoming Meetings

Presentations plus Discussion of Ideas

- June 22nd – Groundwater in the Assured Water Supply Program
- August 10th – Unreplenished Groundwater Withdrawals
- September 9th – Hydrologic Disconnect
- GWAICC September – Committee Update on Solutions Development



Timeline

- October through December – Fine-tune most realistic, supported strategies and solutions
- GWAICC December Meeting – Present general-consensus proposals
- 2022 – Continue discussion to develop additional strategies and solutions

Questions for the Post-2025 AMAs Committee?

Co-Chairs: Warren Tenney and Cheryl Lombard

Governor's Water Augmentation, Innovation & Conservation Council

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IV. Discussion of Establishment of Additional Management Periods

Rep. Gail Griffin

Council Chair, Director Tom Buschatzke

Previously Introduced Legislation (SB1512)

Representative Gail Griffin

State's 2018 Proposal

Council Chair, Director Tom Buschatzke

Issue

A.R.S. § 45-563 (A)

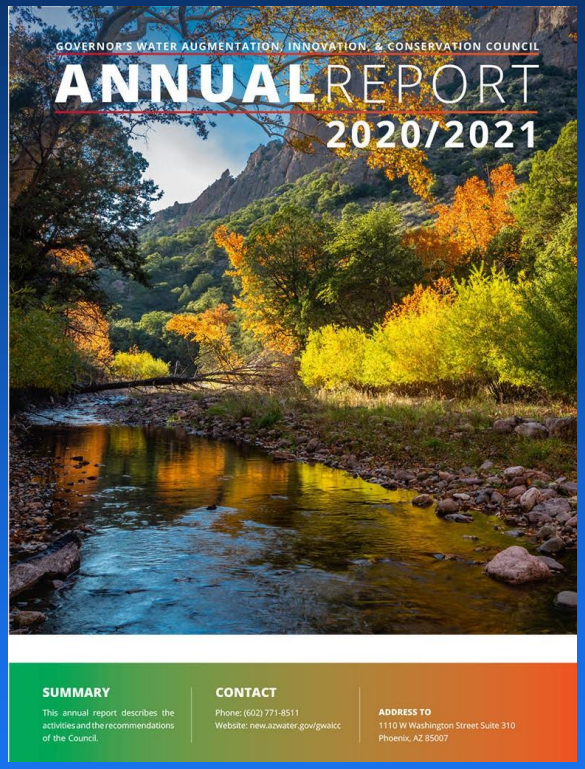
"The director shall develop a management plan for each initial active management area for each of five management periods... and shall adopt the plans only after public hearings… The plans shall include a continuing mandatory conservation program… designed to achieve reductions in withdrawals of groundwater."

* There is no clear statutory provision regarding goals, plans and periods after 2025.
  * The 5th Management Plans are currently under development, and the conservation programs will become effective on January 1, 2025.
  * Those plans will remain effective "until the legislature determines otherwise" (ARS 45-568(C))

State's 2018 Proposal

Create three additional ten-year management periods beginning in 2025 for all AMAs and require the Director of ADWR to adopt management plans for each of those periods.

V. Council Annual Report FY21



Closing Remarks

Upcoming Meetings

September 16, 2021, 10:00 a.m.

December 9, 2021, 10:00 a.m.

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